40399/119/NIHD

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of
Matsui, et al.
Serial No. 07/915,884
Filed: July 20, 1992 Group Art Unit: 1807
Examiner: Marschel, A.
For: TYPE α PLATELET-DERIVED GROWTH FACTOR RECEPTOR GENE

DECLARATION UNDER 37 CFR §1.132

The Honorable Commissioner of
Patents and Trademarks
Washington, D.C. 20231

Sir:

I, Donald P. Bottaro, being duly warned, hereby declare and say:

1. I hold the degree of Ph.D. and am currently employed at the National Cancer Institute, the National Institute of Health. I have worked in the field of growth factor/receptor interaction since 1985. My *curriculum vitae* is attached as Exhibit A.

2. I have reviewed U.S. patent application Serial No. 07/915,884, entitled "Type α Platelet-Derived Growth Factor Receptor Gene" ("the application"). In particular, I have considered the data presented in Figure 11 and the description of these data on page 52 of the specification.

3. Figure 11 is a saturation curve depicting the saturable binding of Platelet Derived Growth Factor ("PDGF") AB or PDGF BB with PDGF α or PDGF β receptors on human D32 cells. The large graph shows that as more PDGF is added, binding continues to increase until a plateau is reached. The inset in this figure

shows the same data, replotted in the standard Scatchard format.

4. Based upon my experience in preparing and using the type of data presented in Figure 11, I would interpret these data as showing that α platelet derived growth factor receptor protein binds the AB and BB forms of PDGF with equivalent affinity. Binding affinity can be estimated from a Scatchard graph. The slopes of the lines drawn through the various points indicate a high binding affinity relative to other known growth factors. At page 52 of the application, the applicants state that binding affinities expressed in terms of K_i were 0.4 nM and 0.5nM for PDGF α receptor and PDGF β receptor cells, respectively. I believe that these K_i values indicate high binding affinities, relative to other known growth factors.

5. I further declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements and the like so made may jeopardize the validity of this declaration, the subject application and any patent issuing thereon.

10/4/94
Date

Donald P. Bottaro, Ph.D.

October 1994

CURRICULUM VITAE

Name: Donald Paul BOTTARO

Date and Place of Birth: August 22, 1956; Bridgeport, CT

Citizenship: United States

Marital Status: Married

Education:

1978	B.A. (Biology), The University of Chicago, Chicago, IL
1986	Ph.D. (Cell and Molecular Biology), Boston University, Boston, MA

Brief Chronology of Employment:

1985 - 1987	Research Fellow, Elliott P. Joslin Research Laboratory, Joslin Diabetes Center, Department of Medicine, Harvard Medical School, Boston, MA
1987 - 1990	Intramural Research Training Fellow, Laboratory of Cellular and Molecular Biology, National Cancer Institute, Bethesda, MD
1990 -	Senior Staff Fellow, Laboratory of Cellular and Molecular Biology, National Cancer Institute, Bethesda, MD

Honors and Other Special Scientific Recognition:

1980 - 1984	Teaching Fellowship, Graduate School of Arts and Sciences, Boston University
1983	Dean's Award, Graduate School of Arts and Sciences, Boston University
1985	Graduate Scholarship, Graduate School of Arts and Sciences, Boston University
1986	Young Investigator of the Year, American Microcirculatory Society
1987	National Research Service Award, U. S. Public Health Service (Declined in favor of IRTA Fellowship)
1989	Foundation for Advanced Education in the Sciences Travel Award, 7th International Conference on Cyclic Nucleotides, Calcium, and Protein Phosphorylation. October 8-13, Kobe, Japan.

Honors and Other Special Scientific Recognition (cont'd):

1993 Federal Technology Transfer Award, NCI
1994 Federal Technology Transfer Award, NCI

Societies:

American Association for the Advancement of Science
American Society for Cell Biology

Research Interests:

Signal transduction by growth factors and hormones

Patents:

Aaronson S.A., Ishibashi T., **Bottaro D.P.**, and Miki T. U.S. Patent Pending Application No. 7/988,273: Expression Cloning of a Human Phosphatase.

Bottaro, D.P., Rubin, J.S., and Aaronson, S.A. U.S. Patent Pending Application No. 8/059,030: KGF Receptor-Derived Antagonists of KGF Binding.

Bottaro D.P., Rubin J.S., Faletto D.L., Chan A.M-L., Vande Woude G., and Aaronson S.A. U.S. Patent Pending Application No. 7/642,971: Hepatocyte Growth Factor Receptor is the *met* Proto-Oncogene.

Chan A.M-L., Rubin J.S., **Bottaro D.P.**, and Aaronson S.A. U.S. Patent Pending Application No. 7/655,502: A Non-Mitogenic Competitive HGF Antagonist.

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8. Ramponi, G., Manao, G., Camici, G., Cappugi, G., Ruggiero, M. and **Bottaro, D.**: The 18kd cytosolic acid phosphatase from bovine liver has phosphotyrosine phosphatase activity on the autophosphorylated epidermal growth factor receptor. FEBS Letters 250: 469-473, 1989.

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